AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior listings, and all prior versions, of claims in the application.

LISTING OF CLAIMS:

1. (Currently Amended) A thrombus detecting apparatus comprising:

a transducer, which is attached to a monitor portion of a subject and transmits and receives ultrasonic waves, a transmitter and receiver unit, which transmits and applies driving pulses to the transducer and receives echo signals output from the transducer, and

a first detector ~~making use of ultrasonic waves,~~ which processes output signals of the transmitter and receiver ~~unit~~ unit, and detects a thrombus passing through a blood vessel, and

a light source, which generates living body inspection light,

a probe, which is attached to a monitor portion of the subject and irradiates the living body inspection light from the light source to the subject,

a light receiving unit, which receives living body inspection light irradiated from the probe and passed through the subject and outputs electrical signals depending on the intensity of the received living body inspection light, and

a second detector ~~making use of living body light,~~ which processes the output signals of the light receiving unit and detects a thrombus passing through a blood vessel,

characterized in further comprising a thrombus comprising a thrombus counting unit, which counts both the number of ~~thrombus by combining~~ thrombus detected by the first detector ~~making use of ultrasonic waves~~ and the number of thrombus detected by the second detector ~~making use of living body light~~.

2. (Previously Presented) A thrombus detecting apparatus according to claim 1, characterized in further comprising an alarm device, which generates an alarm based on the number of thrombus counted by the thrombus counting unit.

3. (Original) A thrombus detecting apparatus according to claim 1 or 2, characterized in that the thrombus detecting apparatus further comprising a portable self power source.

4. (Currently Amended) A thrombus treating apparatus comprising:

a transducer, which is attached to a monitor portion of a subject and transmits and receives ultrasonic waves,

a transmitter and receiver unit, which transmits and applies driving pulses to the transducer and receives echo signals output from the transducer, and

a first detector ~~making use of ultrasonic waves,~~ which processes output signals of the transmitter and receiver ~~unit~~ unit, and detects a thrombus passing through a blood vessel, and

a light source, which generates living body inspection light,

a probe, which is attached to a monitor portion of the subject and irradiates the living body inspection light from the light source to the subject,

a light receiving unit, which receives living body inspection light irradiated from the probe and passed through the subject and outputs electrical signals depending on the intensity of the received living body inspection light,

a second detector ~~making use of living body light,~~ which processes the output signals of the light receiving unit and detects a thrombus passing through a blood vessel,

characterized in further comprising a thrombus counting unit, which counts the number of thrombus ~~which by combining~~ by adding the number of thrombus detected by the first detector ~~making use of ultrasonic waves~~ and the number of thrombus detected by the second detector ~~making use of living body light~~, and

a treatment use ultrasonic wave generating device, which transmits ultrasonic waves for dissolving a thrombus flowing through the blood vessel based on the counted number of the thrombus.

5. (Original) A thrombus treating apparatus according to claim 4, characterized in that the thrombus treating apparatus further comprising:

a living body light measurement apparatus, which observably displays a state of blood stream in the blood vessel, and

an injection device, which injects thrombus dissolving agent into the blood vessel depending on the state of blood stream in the blood vessel observed by the living body light measurement apparatus.

6. (Original) A thrombus treating apparatus according to claim 5, characterized in that the thrombus treating apparatus further comprising:

a control device, which monitors the injection amount of the thrombus dissolving agent by the injection device and the transmission time of the ultrasonic waves by the treatment use ultrasonic generating device and adjusts and controls the injection amount and the irradiation time.

7. (Original) A thrombus treating apparatus according to claim 6, characterized in that the thrombus treating apparatus further comprising:

a thrombus dissolving agent activation use ultrasonic wave generating device, which transmits ultrasonic waves for activating the thrombus dissolving agent injected into the blood vessel from the injection device attached to the subject.

8. (Currently Amended) A thrombus detecting method comprising:

a step of transmitting and irradiating ultrasonic waves and living body inspection light from an ultrasonic wave transducer and a living body light measurement probe attached at a monitor portion of a subject toward a blood vessel at the monitor portion,

a step of measuring echo signals and/or penetrating living body light from the blood vessel at the monitor portion, and

a step of counting a number of thrombus flowing in the blood vessel at the monitor portion based on ~~a combination~~ addition of the intensity of the measured echo signals and penetrating living body light.

9. (Original) A thrombus detecting method according to claim 8 further comprising:

a step of generating an alarm when the thrombus detection number in the counting step reaches a predetermined number.

10. (Currently Amended) A thrombus treating method comprising:

a step of transmitting and irradiating ultrasonic waves and living body inspection light from an ultrasonic wave transducer and living body inspection light

from an ultrasonic wave transducer and a living body light measurement probe attached at a monitor portion of a subject toward a blood vessel at the monitor portion,

a step of measuring echo signals and penetrating living body light from the blood vessel at the monitor portion,

a step of counting a number of thrombus flowing in the blood vessel at the monitor portion based on ~~a combination~~ addition of the intensity of the measured echo signals and penetrating living body light, and

a step of transmitting treatment use ultrasonic waves toward the blood vessel from the treatment use transducer attached to the subject for dissolving a thrombus passing through the blood vessel when a thrombus is counted in the counting step.

11. (Original) A thrombus treating method according to claim 10 further comprising:

a step of observing and displaying a state of blood stream in the blood vessel by attaching a living body light measurement apparatus to the subject,

a step of injecting a thrombus dissolving agent into the blood vessel depending on the observed and displayed state of blood stream in the blood vessel.

12. (Original) A thrombus treating method according to claim 11 further comprising:

a step of monitoring the transmission time of the treatment use ultrasonic waves and the injection amount of the thrombus dissolving agent and interrupting the transmission of the treatment use ultrasonic waves and the injection of the thrombus

dissolving agent when a predetermined transmission time and a predetermined amount are reached.

13. (Original) A thrombus treating method according to claim 12 further comprising:

a step of transmitting thrombus dissolving agent activation use ultrasonic waves for activating the injected thrombus agent toward the blood vessel.

14. (New) The thrombus detecting apparatus according to claim 2, wherein:

the number of thrombus counted by the thrombus counting unit results from addition of the number of thrombus detected by the first detector and the number of thrombus detected by the second detector; and

the alarm device generates the alarm if the number of thrombus counted by the thrombus counting unit exceeds a threshold value.

15. (New) The thrombus detecting apparatus according to claim 2, wherein:

the thrombus counting unit independently counts the number of thrombus detected by the first detector and the number of thrombus detected by the second detector; and

the alarm device generates the alarm if the number of thrombus counted by the thrombus counting unit for either the first detector or the second detector exceeds a threshold value.

16. (New) The thrombus detecting apparatus according to claim 15, wherein the threshold value includes a first value applied to the first detector, and a second threshold value applied to the second detector.